



TYPE APPROVAL CERTIFICATE
No. MAC297725CS

This is to certify that the product identified below is in compliance with the regulations herewith specified.

<i>Description</i>	Plastic pipes and fittings
<i>Type</i>	Wavin TIGRIS M1-M5 Systems
<i>Applicant</i>	WAVIN ITALIA SPA VIA BOCCALARA, 24 45030 SANTA MARIA MADDALENA (RO) ITALY
<i>Manufacturer</i>	WAVIN GMBH KUNSTSTOFF-ROHRSYSTEME
<i>Place of manufacture</i>	INDUSTRIESTRASSE 20 D-49767 TWIST GERMANY
<i>Reference standards</i>	Parte C, Capitolo 1, Appendice 3 delle Norme RINA

Issued in **Genoa** on **July 22, 2025**. *This Certificate is valid until* **July 19, 2030**

RINA Services S.p.A.
Rosario Pitruzzo

This certificate consists of this page and 1 enclosure

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Wavin TIGRIS M1-M5 Systems

Reference documentation:

Wavin Tigris M1-M5 "Listino Generale"(2019) from page no. 1 to page no. 5 and from page no.18 to page no. 40.

Test Report 25/09/2013 (Burst test) by Wavin Italia SpA

Test Report 28/02/2020 (Burst test) by Wavin Italia SpA

Test Report No. 2013CS012839 (Flame spread) by RINA Laboratory in accordance to ASTM D635.

Materials:

Pipe: Inner layer Polyethylene (PE-Xc), aluminium and outer layer of PE-RT

Fittings: Tinned brass press-fit sleeve in stainless steel.

Thermic characteristic:

Wavin Tigris M1-M5 "Listino Generale"(2019)

Dimension:

Nominal diameter (ND) and thickness are indicated in the follow table:

	M5							M1		
ND (mm)	16	20	20	25	26	32	40	40	50	63
Thickness (mm)	2	2,0	2,25	2,5	3	3	4	4	4,5	6

Design pressure

Design pressure (DP) and relevant working temperature are indicated in the follow:

Temperature [°C]	Pressione di progetto [bar]
60	8
95	6

Applicable range:

Sanitary system, heating system and conditioning system where low flame attitude characteristic is required like indicated in para. 2.3.2 of Part C, Cap. 1, App. 3 of RINA Rules.

Marking:

Pipes and fittings are to be marked in accordance with Para. 2.1.2 of Part C, Cap. 1, App. 3 of RINA Rules.

Place of manufacturing:

- **Pipe:**

"Wavin MPC Multilayer pipe Company SP.Z.O.O."

PECZ 59 - 57- 100

Strzelin

Poland

- **Fittings:**

"Ningbo Friendship Bronze Ware Co., Ltd."

No.268,Xiaolin Avenue, Xiaolin Town, Cixi

Zhejiang Province,315321,China

CERTIFICATO DI OMOLOGAZIONE DI TIPO

N. **MAC297725CS/001**

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Wavin TIGRIS M1-M5 Systems

Remarks:

Installation on board is to be carried out in accordance with Manufacturer instructions.

Before installation on board, all components are to be tested by the Manufacturer in accordance with Para. 4.2 and after installation on board in accordance with Para. 4.3 of App. 3.

Installation on board of ships built in accordance with RINA "Rules for Classification of High Speed Craft" is subordinated to the full compliance to the requirement of IMO Resolution A.753(18).

The products are to be permanently marked, in compliance with "Rules for testing and certification of Marine Materials and Equipment".

The Society must be kept informed of any changes in the product characteristic.

This certificate can be withdrawn in case of unsatisfactory working results of product or changes in RINA Rules coming into force.

Validity of this Certificate is subject to positive outcome of periodical Audit as per Rules for Testing and Certification of Marine Materials and Equipment.

Genoa July 22, 2025